

Heat Action Platform Downloadable Resource

Baseline Conditions Assessment Checklist

[ONEBILLIONRESILIENT.ORG/HEAT-ACTION-PLATFORM/](https://onebillionresilient.org/heat-action-platform/)



Heat Action Baseline Conditions Assessment

How resilient to heat is your municipality?

- Do you want to identify and map your municipality's current heat-related risks, opportunities, and limitations using only publicly available information?
- Do you want to consider local vulnerability, regulatory governance and capacity, municipality plans, capital sources, intervention types, and relevant stakeholders in your heat action planning activities?
- Are you a city planner, policymaker, researcher, or investor/financier conducting a due diligence assessment?

The Heat Action Baseline Conditions Assessment is a series of checklists and advanced questions to guide research into your municipality's heat vulnerability, planning stage, and political, social, and technical readiness for heat action. This assessment is intended for global use.

The Heat Action Baseline Conditions Assessment can be used to:

- Identify the local heat readiness "lay of the land" and appropriate interventions and partners
- Consider competing priorities for heat readiness
- Compare baseline conditions between cities or for different interventions
- Conduct a due-diligence assessment on the suitability of interventions for a municipality
- And more!

To use the Heat Action Baseline Conditions Assessment, first, fill out the baseline checklist which is (mostly) a series of yes or no questions that will help you map and identify where the local gaps and opportunities in basic conditions for heat action lie. Then, dig deeper on any areas of interest with the advanced questions.

When conducting your search for answers, you may wish to turn to the following sources of information:

- Government, public or private sector, academia, or research center maps
- Laws and legal codes
- Occupation, census, academic research, and nonprofit statistics
- Local weather agencies and the World Meteorological Organization (WMO)
- Government agency documents and websites
- Publicly available budgets and tax documents
- Media (radio, newspapers and magazines, social media, television news, etc.)
- Official and public or private sector reports and filings
- World Bank and other global finance institutions (including insurer and reinsurer) data and publicly available records
- And more!

Assessment 1: Vulnerability Mapping Checklist

Outputs

- Identify where the most vulnerable populations are located within the city.
- Assess the extent of vulnerability to enable resource targeting.
- Identify environmental and climatic limitations of policy and funding

Inputs: vulnerability indicators and urban, climatic, and social conditions

Risk Factor	<input checked="" type="checkbox"/> Baseline Checklist	Advanced Questions
Heat Exposure	<input type="checkbox"/> Can you identify the hottest neighborhoods via:	1. Look for surface temperature maps and air temperature maps 2. Seek alternative indicators, including academic or nonprofit research or anecdotal/media
	<input type="checkbox"/> a) UHI maps	
	<input type="checkbox"/> b) ambient temperature or WBGT maps	
Zoning	<input type="checkbox"/> Are there jurisdiction zoning limitations, regulations, or incentives for: green or blue spaces, vegetation types, alterations to rooftops including reflective coatings or green roofs, AC installation, alterations to building facades (such as via shade structures, building materials/renovation) or street level regulations that could limit thermal or electrical efficiency, residency laws, etc.	1. Are the current zoning laws advancing or hindering heat adaptation? Why/how/in what way(s)? 2. How/in what ways are zoning laws impacting inequitable heat burdens in the population (e.g., by income, race or national origin, green space, age, gender, etc.)?
Population	<input type="checkbox"/> Identify population size and density (which urban areas are the most populated?)	1. If no concentration maps are found, seek % population and academic, nonprofit, or anecdotal/media maps.
	<input type="checkbox"/> Population density by age	
	<input type="checkbox"/> Unhoused and refugee population size and density	
Labor Conditions	<input type="checkbox"/> a) Which local industries are uncooled or under-cooled (indoor and outdoor)?	Can you identify: 1. Percent or total number of people per occupation/industry that are heat exposed? 2. Percent or total number of people per occupation/industry that are heat exposed by gender, age, income, race or other demographic factors?
	<input type="checkbox"/> b) Which local heat-exposed industries are formal and which are informal?	
	<input type="checkbox"/> c) Are there any measures of lost labor productivity due to heat in the formal or informal sector?	
Climate	<input type="checkbox"/> a) What is the average summer heat index, WBGT, or apparent temperature?	1. What is the range of the heat index, WBGT, or apparent temperature? 2. Are there other extreme weather events (list events year and days, attributed mortality, and event weather statistics)? 3. Where are the weather stations located?
	<input type="checkbox"/> b) How long does the heat season last in an average year (which weeks of the year)?	
	<input type="checkbox"/> c) Is there a history of metrological hazards, especially heat waves? (list events year and days, attributed mortality, and event weather statistics)	

Assessment 2: Regulatory Governance and Capacity Checklist

Outputs: Map governing institutions' heat-related rules and recommendations. These include but are not limited to:

- Guidance
- Mandates
- Regulations
- Incentives
- Rebates
- Laws

Inputs: Rules and recommendations of agencies including but not limited to:

- Weather Service
- Environmental Service
- Health Department
- Department Of Workplace/Occupational Health and Safety
- Education Department
- Urban Planning/Development Department

Mandate Type	<input checked="" type="checkbox"/> Baseline Checklist	Advanced Questions
Jurisdiction	<input type="checkbox"/> a) Does the agency have jurisdiction over rules and recommendations for heat-related adaptation? <input type="checkbox"/> b) Which agency(ies) issue heat warnings?	<ol style="list-style-type: none"> 1. What are the limits of the agency's jurisdiction? 2. Which other agencies need to be consulted? 3. Which agencies can override?
Criteria, Thresholds, Guidance, and Recommendations	<input type="checkbox"/> a) Are there heat wave or excess heat warnings or alerts? <input type="checkbox"/> b) Do heat warnings have a criteria, threshold, or definition? <input type="checkbox"/> c) Is there an early warning system? <input type="checkbox"/> d) Are recommended actions or precautions provided with warnings? <input type="checkbox"/> e) Are there guidelines, recommendations, or resources on heat risk for the public?	<ol style="list-style-type: none"> 1. What are the criteria, threshold(s), or definition(s) for a heat wave, heat event, or excess heat, and for warnings to the public? 2. What factors are warnings based on? 3. What are the recommended actions or precautions provided with warnings? 4. What are the guidelines, recommendations, or resources on heat risk for the public?
Budget	<input type="checkbox"/> a) Is there a budget for heat-related activities or warnings?	<ol style="list-style-type: none"> 1. What is the budget? How does it compare to other climate hazards? 2. How is financing secured or appropriated?
Regulation	<input type="checkbox"/> a) Are there any occupational or residential heat-related safety regulations in place? <input type="checkbox"/> b) Are any heat-safety regulations under consideration?	<ol style="list-style-type: none"> 1. What are the safety regulations in place or under consideration? 2. Have any past regulations been ceased or curtailed? Why?
Incentives	<input type="checkbox"/> a) Are there heat adaptation, mitigation, or resilience incentives are in place? <input type="checkbox"/> b) Are there incentives in consideration, budgeted, or planned?	<ol style="list-style-type: none"> 1. What are the heat adaptation, mitigation, or resilience incentives in place? 2. What are the incentives in consideration, budgeted, or planned? 3. Have any past incentives been ceased or curtailed? Why?
Monitoring & Evaluation	<input type="checkbox"/> a) Does the agency have metrics, indicators, or otherwise monitor or evaluate any of their heat-related activities? <input type="checkbox"/> b) Are there metrics or indicators for monitoring ROI for heat-related activities? <input type="checkbox"/> c) Are there any evaluation reports, briefs, or other demonstration of outcomes?	<ol style="list-style-type: none"> 1. Which heat-related activities are monitored or evaluated? 2. What is presented as the ROI? 3. What are the presented outcomes? 4. How is this information used locally to make decisions?

Assessment 3: Municipality Plans Checklist

Outputs

- Map the city's priorities and plans, ROI, and political history of heat-related interventions
- Map community-member, stakeholder, and technical expert appetite and responses to plans
- Identify which interventions, policy, financial or other solutions are prioritized/incentivized and which are deprioritized, ignored, or disincentivized

Inputs: Heat and climate action plans

Municipality Plans and Actions	<input checked="" type="checkbox"/> Baseline Checklist	Advanced Questions
Plan types	<input type="checkbox"/> a) Is there a climate, sustainability action, adaptation, resilience, and/or mitigation plan? <input type="checkbox"/> b) Is there a heat action plan? <input type="checkbox"/> c) Is there a heat early warning system plan? <input type="checkbox"/> d) Is there a health-based heat early warning system plan? <input type="checkbox"/> e) Is there a health plan that incorporates heat risks and vulnerabilities? <input type="checkbox"/> f) Is there a land use and development plan? <input type="checkbox"/> g) Do any parks and recreation, transportation, and/or infrastructure plans include heat?	<ol style="list-style-type: none"> 1. Which specific climate risks are planned for? 2. How detailed and comprehensive are plans for heat-related risks (what do they define, incentivize/prioritize, disincentivize or omit)? 3. To what extent do plans consider and prepare for heat-related risks? 4. Are heat-related risks incorporated into design, operations, and decommissioning?
Political will	<input type="checkbox"/> a) Are policymakers discussing heat via media or on the public record? <input type="checkbox"/> b) Is there proposed legislation related to heat?	<ol style="list-style-type: none"> 1. What are policymakers or leaders saying on heat-related risks? 2. What is the content of proposed legislation? Which needs does it meet? 3. Who is leading the proposed legislation?
ROI	<input type="checkbox"/> a) Is any budget allocated for plans? <input type="checkbox"/> b) Is there a budget for heat-related activities? <input type="checkbox"/> c) Is there an official or unofficial ROI assessment of plans and activities? <input type="checkbox"/> d) Is there a due diligence process? <input type="checkbox"/> e) Do plans or policy incentives have an impact on private finance investment? What is the impact?	<ol style="list-style-type: none"> 1. How much of the budget is allocated for the plan? 2. How is the plan's funding allocated across specific activities? 3. What is the budget for heat-related activities? How does it compare to other hazards? 4. What is the projected ROI? 5. What are the metrics and indicators for monitoring and evaluating ROI? 6. How does the plan track if/how intended benefits are realized?

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Municipality Plans and Actions	<input checked="" type="checkbox"/> Baseline Checklist	Advanced Questions
Public sentiment	<input type="checkbox"/> Are heat issues and related injuries and deaths being featured in the news?	<ol style="list-style-type: none"> 1. What are the sentiments? 2. Which actions and interventions are gaining traction in the media?
Project and plans history	<input type="checkbox"/> a) Were any past heat interventions or plans successful? b) Were any past heat interventions or plans unsuccessful? c) Are current/in progress plans facing challenges?	For successful, failed, or in progress plans: <ol style="list-style-type: none"> 1. Who led them (legislative or initiative champion)? 2. How long did it take? 3. How were they funded? 4. What were their limitations? 5. How well did the final product align with the planned product? 6. What were the outcomes? 7. What was the public response?

Assessment 4: Interventions Checklist

Outputs

- Identify which interventions are suitable for the region and/or how suitable a desired intervention is
- Mapping of capacity gaps and regulations that would limit or prevent implementation
- Identify incentives
- Identify past interventions. Identify if city has access locally or through established supply chains to interventions and technical assistance

Inputs: Examine the following common intervention types:

Passive cooling

- Nature-based
 - Green infrastructure
 - Blue infrastructure
 - Ecosystem restoration
- Built environment
 - Urban form and planning
 - Land use planning
 - Cool surfaces (including rooftops)
 - Reflective surfaces (including rooftops)
 - permeable surfaces
 - Energy efficient buildings
 - Thermally efficient buildings

Active cooling

- High efficiency AC units
- Low-energy-use active cooling solutions

Communications/Outreach

- Awareness raising

Planning/policy

- Building codes and energy performance standards
- Green building programs
- Heat early warning systems

Financing and Investment

Insurance and re-insurance

Intervention Types	<input checked="" type="checkbox"/> Baseline Checklist	Advanced Questions
Green infrastructure, Blue infrastructure, and Ecosystem restoration	<input type="checkbox"/> a) Are there existing urban green and blue spaces? <input type="checkbox"/> b) Is green and blue infrastructure publicly accessible? <input type="checkbox"/> c) Are there ecosystem restoration programs and plans? <input type="checkbox"/> d) Are there regulations or incentives on green and blue spaces or ecosystem restoration? <input type="checkbox"/> e) Are these interventions desired by the local community(ies)? <input type="checkbox"/> f) Are there analyses of how effective an intervention be locally in reducing heat burden or impacts? <input type="checkbox"/> g) Is there local knowledge or technical assistance on using the intervention effectively?	<ol style="list-style-type: none"> 1. What percentage of the area is green or blue space? 2. Where is green and blue space located? How equitable is the distribution across neighborhoods? 3. Which kinds of green or blue infrastructure are climatically suitable and available? 4. What are the maintenance needs of different green and blue infrastructure? 5. What are the local pests or hazards that may affect green or blue infrastructure or ecosystem restoration? 7. How have past interventions performed? 8. How are interventions taxed, regulated, or incentivized?
Built environment: Urban form and planning, Land use planning, Cool and reflective surfaces, Permeable surfaces Energy-efficient buildings Thermally efficient buildings	<input type="checkbox"/> a) Do urban form and planning and land use planning already account for heat interventions? <input type="checkbox"/> b) Are there intervention-related regulations or incentives? <input type="checkbox"/> c) Are cool and reflective coatings and permeable surfaces commercially available? <input type="checkbox"/> d) Is there a local premium on the intervention? <input type="checkbox"/> e) Are there analyses of how effective an intervention may be locally in reducing heat burden or impacts? <input type="checkbox"/> f) Is there local knowledge or technical assistance on using the intervention effectively? <input type="checkbox"/> g) Are there green building programs?	<ol style="list-style-type: none"> 1. How prevalent is the use of cool & reflective surfaces? 2. How prevalent is the use of permeable surfaces? 3. How effective would the intervention be locally? 4. How are interventions taxed, regulated, or incentivized? 5. What is the balance of passive and active cooling in plans? 6. Which materials for energy and thermally efficient buildings are readily available and cost-effective locally? 7. How have past interventions performed? 8. How are interventions taxed, regulated, or incentivized? 9. Which energy and thermally efficient materials and building style(s) are most suited to the region and local climate? 10. What are the local building codes and energy performance standards?

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Intervention Types	<input checked="" type="checkbox"/> Baseline Checklist	Advanced Questions
Active cooling High-efficiency AC units Low-energy-use active cooling solutions	<input type="checkbox"/> a) Are there analyses of projected active cooling demand? <input type="checkbox"/> b) Are there analyses of projected energy demand to meet cooling needs? <input type="checkbox"/> c) Do projections conflict with GHG emissions goals? <input type="checkbox"/> d) What percentage of the population has access to electricity? <input type="checkbox"/> e) How frequently do black or brownouts occur during the heat season? <input type="checkbox"/> f) Is there local knowledge or technical assistance on using the intervention effectively?	<ol style="list-style-type: none"> 1. What is the current and projected cooling stock mix? 2. What forms of A/C are commercially available? 3. What is the quality of stock? 4. Is there a premium? 4. How can GHG and VOC emissions from the active cooling interventions be reduced? 5. How is active cooling taxed, regulated, or incentivized? 6. How accessible and affordable compared to average local salary are high-efficiency active cooling units? 7. How have past interventions performed?
Communications, Outreach, & Awareness raising	<input type="checkbox"/> a) Is there current public demand for interventions? <input type="checkbox"/> b) Are there currently heat awareness or communications campaigns? <input type="checkbox"/> c) Are there currently public health heat awareness or communications campaigns? <input type="checkbox"/> d) Are there currently heat awareness or communications campaigns for employers and occupational health and safety? <input type="checkbox"/> e) Is there local knowledge or technical assistance on using the intervention effectively?	<ol style="list-style-type: none"> 1. What percentage of the population has internet access? 2. What percentage of the population uses cellular data? 3. What percentage of the population uses radio? 4. Which public health information sources are trusted? 5. How are interventions taxed, regulated, or incentivized? 6. Which populations are targeted by communications campaigns? 7. How do current campaigns reach the public? The most vulnerable? Employers? 8. Who do current communications campaigns aim to reach? 9. How have current or past interventions performed?
Heat early warning systems	<input type="checkbox"/> a) Is there a heat early warning system? <input type="checkbox"/> b) Is there a health-based heat early warning system? <input type="checkbox"/> c) Is there a heat action plan? <input type="checkbox"/> d) Is there local knowledge or technical assistance on using the intervention effectively?	<ol style="list-style-type: none"> 1. Which actors are in charge or could be in charge of a heat early warning system or heat action plan? 2. Which agencies need to be consulted locally? 3. How does the health early warning system reach people? 4. How have past interventions performed? 5. How are interventions taxed, regulated, or incentivized? 6. How can current systems be improved? 7. Are new systems needed?

Assessment 5: Partnership Mapping Checklist

Outputs

- Identify relevant stakeholders
- Identify institutions or organizations that can receive funding from foreign nations, development finance institutions, development banks, philanthropic donations, or other national or international capital

Stakeholder	<input checked="" type="checkbox"/> Baseline Checklist	Advanced Questions
Local government	<input type="checkbox"/> a. Is the local government involved in heat action or resilience planning? <input type="checkbox"/> b. Are elected officials discussing or making policy on extreme heat? <input type="checkbox"/> c. Do they have technical assistance and delivery capacity? <input type="checkbox"/> d. Do they receive funding from foreign nations, Development Finance Institutions, Development Banks, philanthropic donations, or other national or international capital?	<ol style="list-style-type: none"> 1. In what capacity and to what extent? 2. What is budget? How are funds acquired, appropriated, or allocated? 3. Who does the local government consider official partners in heat action or resilience planning or interventions? 4. How are they communicating with the public? 5. Do they have public trust?
Public and private sectors	<input type="checkbox"/> a. Which organizations locally are most engaged in heat-related action, planning, interventions, infrastructure, etc.? <input type="checkbox"/> b. Which organizations locally receive funding from foreign nations, Development Finance Institutions, Development Banks, philanthropic donations, or other national or international capital? <input type="checkbox"/> c. Do they have technical assistance and delivery capacity?	<ol style="list-style-type: none"> 1. Which organizations have been involved in climate-related decision-making processes? 2. How are they communicating with the public? 3. Do they have public trust?
CSOs/NGOs	<input type="checkbox"/> a. Are there any civil society organizations that are mobilizing on climate action? <input type="checkbox"/> b. Do they have technical assistance and delivery capacity? <input type="checkbox"/> c. Which organizations locally receive funding from foreign nations, Development Finance Institutions, Development Banks, philanthropic donations, or other national or international capital?	<ol style="list-style-type: none"> 1. Have these organizations been involved in climate-related decision-making processes? 2. What actions are CSOs/NGOs taking? 3. How are they communicating with the public? 4. Do they have public trust?
Academia and research	<input type="checkbox"/> a. Which organizations have been involved in decision-making processes? <input type="checkbox"/> b. Do they have technical assistance and delivery capacity?	<ol style="list-style-type: none"> 1. What are the safety regulations in place or under consideration? 2. Have any past regulations been ceased or curtailed? Why?
Community engagement	<input type="checkbox"/> a. Are social leaders discussing extreme heat and other relevant climate hazards?	<ol style="list-style-type: none"> 1. How are they communicating with the public? 2. Do they have public trust?